

AMENDED CLAIM SET

1 1. - 7. (canceled)

1 8. (currently amended) A semiconductor field effect device having a gate dielectric and a
2 gate, wherein said gate comprises a compound comprising Ta and N TaSiN disposed
3 over said gate dielectric, wherein said compound TaSiN has a resistivity below about
4 20m Ω cm, and wherein in said compound the elemental ratio of N to Ta greater than
5 about 0.9:1, and a workfunction between about 4.31eV and 4.4eV.

1 9. - 11. (canceled)

1 12. (currently amended) The field effect device of claim 9 8, wherein in said TaSiN the Si
2 to Ta elemental ratio is between about ~~0.35 and 0.5~~ 0.35:1 and 0.5:1.

1 13. (currently amended) The field effect device of claim 12, wherein said TaSiN has an a
2 substantially amorphous material structure.

1 14. (canceled)

1 15. (original) The field effect device of claim 8, wherein said gate dielectric has an

1 equivalent oxide thickness of less than about 5nm.

1 16. (original) The field effect device of claim 15, wherein said gate dielectric has an
2 equivalent oxide thickness of less than about 2nm.

1 17. (original) The field effect device of claim 8, wherein said gate dielectric comprises
2 SiO₂.

1 18. (original) The field effect device of claim 8, wherein said gate dielectric comprises a
2 high-k dielectric material.

1 19. (original) The field effect device of claim 8, wherein said device is a Si based MOS
2 transistor.

1 20. (original) The field effect device of claim 19, wherein said device is an NMOS
2 transistor.

1 21. (currently amended) The field effect device of claim 20, wherein said NMOS
2 transistor has a threshold voltage between about ~~0.15V and 0.55V~~ 0.36V and 0.45V.

1 22. - 32. (canceled)

1 33. (currently amended) A processor, comprising:

2 at least one chip, wherein said chip comprises at least one semiconductor field
3 effect device having a gate dielectric and a gate, wherein said gate comprises ~~a compound~~
4 ~~comprising Ta and N~~ TaSiN disposed over said gate dielectric, wherein said compound
5 TaSiN has ~~a resistivity below about 20mΩcm, and wherein in said compound the~~
6 ~~elemental ratio of N to Ta greater than about 0.9:1, and a workfunction between about~~
7 4.31eV and 4.4eV.

1 34. (original) The processor of claim 33, wherein said processor is a digital processor.

1 35. (original) The processor of claim 33, wherein said processor comprises at least one
2 analog circuit.

1 36. (new) The field effect device of claim , wherein TaSiN has a resistivity below about
2 20mΩcm.